

REMARKS

The Official Action dated November 4, 2004 has been received and its contents carefully noted. In view thereof, claims 1, 3, 5, 7 and have been amended in order to better define that which Applicants regard as the invention. As previously, claims 1-18 are presently pending in the instant application with claims 11-18 being withdrawn from further consideration by the Examiner as being directed to a non-elected invention.

With reference now to the Office Action, Applicant hereby confirms the election of Group I, claims 1-10 as set forth in the reply filed August 16, 2004. Applicant further acknowledges the Examiner's indication that claims 11-18 have been withdrawn for further consideration as being drawn to a non-elected invention.

With further reference to page 2 of the Office Action, claims 1-10 have been rejected under 35 U.S.C. 112, first paragraph, because the claims are broader in scope than the enabling disclosure. Specifically, the Examiner states that claim 1 recites "a fluorine gas" which, given its broadest reasonable interpretation is taken to mean a fluorine containing gas. The Examiner notes that the specification while being enabling for fluorine containing gases, it does not reasonably provide enablement for etching with a host compound that are among the vast number of fluorine containing compounds. Similarly, the Examiner has objected to the recitation in claim 3 of "a hydrogen gas, a nitrogen gas and a fluorine gas" as well as similar recitations in claims 5, 7 and 9. As can be seen from the foregoing amendments, each of the broad recitations of a fluorine gas, a hydrogen gas and a nitrogen gas have been amended to refer to specific gases which are supported by Applicants specification. Accordingly, it is respectfully submitted that claims 1-10 and particularly claims 1, 3, 5, 7 and 9 are now in proper formal condition for allowance.

With reference now to page 3 of the Office Action, claims 1-10 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Particularly, the Examiner is of the position that the recitation "main constituents" as set forth in claims 1, 3, 5, 7 and 9 renders the claim indefinite. Again as can be seen from the foregoing amendments, each of claims 1, 3, 5, 7 and 9 have been amended in order to delete reference to the phrase "main constituent". Accordingly, it is respectfully submitted that Applicants claimed invention as set forth in each of claims 1, 3, 5, 7 and 9 as well as those claims which depend therefrom are in proper formal condition for allowance.

With reference now to page 4 of the Office Action, claims 3-6, 9 and 10 have been rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Publication 10-268526 issued to Sato. This rejection is respectfully traversed in that the patent to Sato neither discloses nor suggests that which is presently set forth by Applicants claimed invention.

In this regard, as can be seen from the foregoing amendment, each of independent claims 3, 5 and 9 recite an etching method comprising the step of performing anisotropic etching with respect to an interlayer insulating film composed of an organic-inorganic hybrid film containing an organic component and a silica component by using a plasma derived from an etching gas containing a H₂ gas, a N₂ gas, and a F₂ gas but no O₂ gas with respect to claim 3, a H₂ gas and a nitrogen trifluoride gas but no O₂ gas with respect to claim 5 and containing a N₂ gas and a fluorinated hydrocarbon but no O₂ gas as recited in claim 9. That is, as recited in amended claims 3-6, 9 and 10, the film to be etched is an interlayer insulating film composed of an organic-inorganic hybrid film containing an organic component and a silica component and the silica component has a Si-O bonding. Further, in accordance with these claims an etching gas contains no O₂ gas. Since the etching gas contains no O₂ gas the organic-inorganic hybrid is not being oxidized, and thus the problem of a gas generated from the organic-inorganic hybrid film in the subsequent heat treatment process can be prevented. These features being set forth on page 9, lines 20-24, page 10, line 22 to page 11, line 1, and page 13, lines 1-5 of Applicants specification. On the other hand, as recited in the Sato reference, the film to be etched using an etching gas as noted in paragraph [0050] is a silica organic film 3, which is a compound having a Si-Si bonding as described in paragraphs [0032]-[0034]. The chemical formula are shown in [Formula 1] and [Formula 2]. Particularly, the compound disclosed in [Formula 1] and [Formula 2] is not a compound having a “Si-O bonding” and thus the film to be etched in the embodiment of Sato is different from that set forth according to Applicants claimed invention.

Furthermore, according to the third embodiment of Sato, the film to be etched using an etching gas as described in paragraph [0088] is a “silica organic film 13”, and as disclosed in paragraph [0066], the silica organic film 13 is a compound having a siloxane bonding, which is a compound having a Si-O bonding. However, as is noted from paragraph [0088] of Sato, O₂ gas is added to the etching gas, and thus Sato fails to disclose and is directly contrary to that which is specifically recited by Applicants claimed invention wherein “the etching gas contains no O₂ gas”. Accordingly, the film to be etched in the third embodiment of Sato is

different from that of the present invention. Therefore, it is respectfully submitted that Applicants claimed invention as set forth in independent claims 3, 5 and 9 as well as those claims which depend therefrom clearly distinguish over the teachings of Sato and are in proper condition for allowance.

With further reference to page 4 of the Office Action, claims 3-6, 9 and 10 have been rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,207,583 issued to Dunne et al. In this regard, filed concurrently herewith is a Verified Translation of Applicants priority document wherein Applicant now claims benefit of the filing date of Japanese Patent Application No. 11-17916 which was filed with the Japanese Patent Office on January 27, 1999. Accordingly, in that the filing date to which the Applicant is entitled is prior to the filing date of September 3, 1999 of the Dunne et al. reference, it is respectfully submitted that this rejection is no longer believed to be proper.

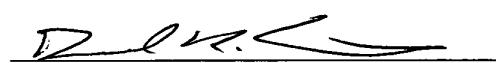
It is noted that the Dunne et al. patent issued from an application filed September 3, 1999 based on provisional application no. 60/099246 filed September 4, 1998. In this regard, should the Examiner believe the rejection of claims 3-6, 9 and 10 under 35 U.S.C. 102(e) as being anticipated by the teachings of Dunne et al. is supported by the provisional application, Examiner is hereby earnestly solicited to provide Applicant with documentation which illustrates that the subject matter relied on by the Examiner in rejecting Applicants claimed invention is adequately supported by the originally filed provisional application. In the absence of such showing, it is respectfully submitted that Applicants claimed invention predates that of Dunne et al. and thus is in proper condition for allowance.

With reference now to page 5 of the Office Action, claims 1 and 2 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Dunne et al. in view of U.S. Patent No. 6,350,670 issued to Andideh et al. This rejection is likewise respectfully traversed in that with the filing of Applicant's Verified Translation of the priority document, the present application is entitled to an effective filing date of January 27, 1999. As the Examiner can readily appreciate, the application which lead to the issuance of Andideh et al., is entitled to the filing date of December 17, 1999 which is significantly after that date to which the presently claimed invention is entitled. Accordingly, it is respectfully submitted that the rejections of claims 1 and 2 under 35 U.S.C. 103(a) as being unpatentable over Dunne et al. in view of Andideh et al. has been overcome with the filing of the Verified Translation of Applicants priority document and consequently further discussion with the respect to the merits of this rejection is no longer believed to be warranted.

Therefore, in view of the foregoing it is respectfully requested that the rejections of record be reconsidered and withdrawn by the Examiner, that claims 1-10 be allowed and that the application be passed to issue.

Should the Examiner believe a conference would be of benefit in expediting the prosecution of the instant application, he is hereby invited to telephone counsel to arrange such a conference.

Respectfully submitted,


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